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RESEARCH AND DEVELOPMENT**

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No. 22

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INTERNATIONAL

BRIEFS

UGANDAN ACCORD WITH MENA --The minister of information and broadcasting, Col Juma Oris, has signed an agreement with the Middle East News Agency to supply Uganda with news and features from the Arab world. The signing followed recent discussions between officials of the Information and Broadcasting Ministry and MENA in Cairo. Col Juma Oris said that since MENA is an important news agency in the Middle East, Uganda will have the opportunity of receiving correct information about the Arab world which hitherto had not been possible through the imperialist news agencies. In reply, the chairman of the MENA board, Mr Muhammad 'Abd al-Jawad, said the signing was an historic moment in the cooperation between the Arab world and Uganda in news dissemination. Touching on the deliberations of the OAU information ministers conference, Mr al-Jawad said the offer to house the headquarters of the Pan-African News Agency [PANA] in Uganda was an appropriate one. Egypt's support for Uganda in the regard was a sincere gesture on her belief in Uganda as a truly nonaligned country and which, therefore, is suitable for the location of the PANA headquarters. [Kampala Domestic Service in English 1400 GMT 12 Nov 77]

LIBYA-JAPAN TELECOMMUNICATIONS--Tokyo, Nov 12--Nippon Electric Co and Fujitsu Ltd have won a Libyan order to lay a telephone and color television transmission cable linking the ports of Tripoli to Benghazi under the Mediterranean Sea. It was announced Friday the 700-kilometer submarine cable will have a capacity of transmitting 900 telephone circuits and one TV channel. The deal, valued at about 10 billion yen (roughly 40 million dollars), calls for marine surveys, cable laying and training of workers plus maintenance services for 2 years after completion. Scheduled for mid-June 1979 the order came from Libya's Posts and Telecommunication Corp. [Text] [Tokyo KYODO in English 0905 GMT 12 Nov 77 OW]

TELECOMMUNICATIONS NETWORK PROPOSED--The French delegation headed by Secretary of State Deniau of the Ministry of Foreign Affairs proposed the installation of a telecommunications network connecting all the nations on the Persian Gulf during its visit to the United Arab Emirates. [Text] [Paris ELECTRONIQUE ACTUALITES in French 11 Nov 77 p 6]

INTER-ASIAN AFFAIRS

PRC BROADCASTING DELEGATION FETED IN TOKYO

Peking NCNA in English 1211 GMT 9 Nov 77 OW

[Text] Tokyo, November 9, 1977 (HSINHUA)--The Japan Broadcasting Corporation (NHK), the Tokyo Broadcasting Service, the Japan Television Network and the National Asahi Broadcasting Corporation jointly gave a reception here yesterday evening in honour of the Chinese broadcasting delegation led by Chang Hsiang-shan.

Speaking on behalf of the host organizations, Chairman of the Japan Broadcasting Corporation Tomokazu Sakamoto said: Five years have elapsed since the normalization of the diplomatic relations between Japan and China. Friendly intercourse between the two countries has grown considerably in this period. Through the friendly visits and television interviews in China, members of Japanese broadcasting and television circles reported to the Japanese public what was going on in China, which has steadily increased the Japanese people's interest in China. He wished a further increase in intercourse between the broadcasting and television circles of the two countries.

Chang Hsiang-shan said in his speech: It is the wish of the Chinese broadcasting and TV circles to work indefatigably together with their Japanese counterparts through the powerful instrument of broadcasting and television for a fuller implementation and fulfillment of the joint statement between the two governments, for a further development of their friendly relations on the basis of this statement and for the friendship between the two peoples lasting from generation to generation.

Maruichi Maehara, Toshiaki Kamiko and Eizo Nakagawa, Japanese friends who are members of the broadcasting and TV circles, were present at the party.

Chen Kang, counsellor of the Chinese Embassy was also present.

The Chinese broadcasting delegation has come for a visit at the invitation of Japan Broadcasting Corporation, the Nagoya Broadcasting Company, the Mainichi Broadcasting Company, the Asahi Broadcasting Corporation and the Yomiuri Television Station.

Prior to this Chang Hsiang-shan had led the Chinese journalists delegation which concluded its visit yesterday.

CSO: 5500

INTER-ASIAN AFFAIRS

PRC TELECOMMUNICATIONS DELEGATION DEPARTS CAMBODIA

Peking NCNA in English 1558 GMT 12 Nov 77 OW

[Text] Peking, November 12, 1977 (HSINHUA)--The telecommunications delegation of the People's Republic of China led by Chi Tui-chao, deputy director-general of telecommunications of the Ministry of Posts and Telecommunications, left Phnom Penh for home today after a friendly visit to Democratic Cambodia, according to a report from that city. The delegation was seen off at the airport by leading cadres of the Committee of Communications, and the Foreign Ministry, of the Cambodian Government, and Chinese Ambassador to Cambodia Sun Hao.

It was received and feted by Ieng Sary, deputy prime minister in charge of foreign affairs, yesterday evening. And the Chinese ambassador gave a banquet for the delegation on the evening of November 10.

The delegation arrived in Cambodia on October 29. It had discussions with the department concerned of the Democratic Cambodian Government about setting up a telecommunication line between the two countries. The two sides signed on November 10 a "protocol on setting up a telecommunication line between the People's Republic of China and the Democratic Cambodia."

During its stay in the country, the delegation visited Phnom Penh, Kompong Thom, the Temple of Angkor Wat and water conservancy projects

CSO: 5500

INTER-ASIAN AFFAIRS

BRIEFS

CAMBODIA-PRC TELECOMMUNICATIONS PROTOCOLS--A ceremony was held in Phnom Penh in the afternoon of 10 November for the signing of the protocols of the opening of telecommunications links between democratic Cambodia and the PRC. On that occasion, Comrade Mey Prang, chairman of the Committee for Communications, represented the Cambodian side while Comrade Chi Tui-Chao, deputy director general of telecommunications of the Ministry of Post and Telecommunications of the PRC, represented the Chinese side. They signed the protocols on establishing official and normal telecommunications links between democratic Cambodia and the PRC. [Excerpt][Phnom Penh Domestic Service in Cambodian 2300 GMT 11 Nov 77 BH

CSO: 5500

INDIA

GOVERNMENT OUTLINES PROPOSALS FOR NEWS AGENCIES

Delhi Domestic Service in English 0830 GMT 14 Nov 77 BK

[Text] Announcing the government's decision favoring restoration of status quo ante of the four news agencies in the Rajya Sasha today, the minister of information and broadcasting, Mr L.K. Advani, assured the members that the government will help protect the present emoluments of SAMACHAR employees. He also announced that grants in aid will be given to the agencies on a (?totalling) basis for a period of 6 years. These will cover the difference between emoluments drawn by them in SAMACHAR and the emoluments they would have drawn from time to time had they continued in their original agencies. Mr Advani said such a system will also meet the cost of additional posts created by SAMACHAR.

The four agencies are: the Press Trust of India, United News of India, HINDUSTAN SAMACHAR and SAMACHAR BHARATI. As some of the news agencies would have undergone some dislocation following their merger, the government will also consider giving a nonrecurring grant to enable them to make a fresh start.

Mr Advani said that the former government had not only actively assisted the formation of SAMACHAR but had also guided its managing committee in their policy decisions. SAMACHAR was in this sense a product and the symbol of the emergency and the aberration arising out of it. The minister said the government has therefore come to the conclusion that, at the moment, government's role should be limited simply to the setting right of this aberration. The news agencies forced to merge under pressure and against their will should be allowed to function independently as they were earlier. Mr Advani said it would then be open to the news agencies if they so desire to cooperate or come together so that they could play more effectively the pivotal role expected of them in the press set-up.

Congress members urged the chair to allocate time to discuss the government's decision. Mr Vithal Gadgil said he has given a notice for discussing it.

CSO: 5500

INDIA

BRIEFS

DECISION TO DISMANTLE SAMACHAR--The Union Cabinet is understood to have taken a decision on SAMACHAR. The decision will be announced in Parliament, which begins its session on Monday. SAMACHAR says it is understood that it has been decided that the SAMACHAR setup will be dismantled and the status quo ante as on the 31st of January 1975 will be restored. This means the revival of the two English news agencies--the PRESS TRUST OF INDIA and the UNITED NEWS OF INDIA--and two Hindi agencies--the SAMACHAR Bharti and Hindustan SAMACHAR. [Text] [Delhi Domestic Service in English 1530 GMT 10 Nov 77 BK]

CSO: 5500

INDONESIA

BRIEFS

AMBON-JAKARTA TELEPHONE LINK--Ambon, Oct 31--Ambon town will, starting November 1, 1977, become the 15th in Indonesia to be accessible by SLJJ (long distance direct communication). Formerly this town had to be reached from other places in the country only by the ordinary interlocal phone connection system and by common telegrams. Noerhadi, head of the Maluku telecommunications area, told the press here Friday that the SLJJ network to be officially opened November 1 will link Ambon with Ujungpandang, Surabaya and Jakarta. Communications with other towns and cities will still have to use the old interlocal system. [Excerpt] [Jakarta ANTARA in English 0955 GMT 31 Oct 77 BK]

CSO: 5500

ERICSSON COMPANY HAS MAJOR ROLE IN MALAYSIAN TELECOMMUNICATIONS

Kuala Lumpur BUSINESS TIMES in English 29 Sep 77 p 10

[Article by Ho Kin Chai]

[Text]

IN VIEW of the developmental role of telecommunications in modern society, the Malaysian Government has planned to improve and expand the services under the Third Malaysia Plan. Better services are intended to support and stimulate the development of the major sectors of the economy and ensure its rapid growth and equitable distribution among the various regions within the country.

Telecommunications — essential to the social and economic development of the country — has become one of the fundamental elements of the developmental process in modern society. It increases the effectiveness of administration and management of production through speedy transmission and use of information.

Telecommunication facilities, especially telephone and telegraph services, are expected to continue their expansion to meet the growing requirements of commerce and industry in Malaysia. The Telecoms Department, in accordance with the policy of the Third Plan, will be expanding its facilities to existing as well as to new areas to promote new economic growth.

Modern business transactions depend a great deal on speed. The availability of telecommunications enables the user to overcome

problems of distance. It can substitute for travel with the advantage of saving time, cost and labour. Above all, it facilitates closeness between people.

Efficient communications in a country helps as an important stimulus to economic development, particularly in the marginal areas. Telecommunications may contribute direct and indirect benefits to the people. For instance, it contributes directly to the gross domestic product through revenue from tariffs and charges paid by users.

The value of these benefits accrued to users and the production of telecommunication equipment and plant may be viewed as the indirect benefits. The manufacture of these products stimulate the national economy, creates industrial skill and provides employment opportunities to more people.

Telecommunications promote international trade and commerce. It provides incentive effort for the establishment of industrial complexes and associated sub-industries in remote areas into the national economy. Besides expanding the telex service, the Telecoms Department will introduce a new service known as data-transmission service to promote business efficiency.

When telecommunications is used

for commercial purpose, it acts as a catalyst in the direct production of goods and services and can be compared with other investments of an infrastructural nature.

The use of the telecommunications for residential purpose is similar to the use of consumer goods by the community.

Improved telecommunications may stimulate the industries in rural areas which are slow in economic growth but rich in resources such as timber, rubber, palm oil, and agricultural products. These industrial activities may gain new impetus with better communication systems.

According to the Minister of Communications, Tan Sri V. Manickavasagam, Malaysia will have more than 500,000 telephone lines by the end of the Third Plan. Last year, the Telecoms Department installed 38,000 telephones. The target for this year is about 50,000.

Malaysia has one of the most efficient telecommunication systems in Asia. The Telecoms Department adopted the automatic subscriber trunk dialling system in the mid-1960s. The old-fashioned step-by-step and manual telephone exchange systems were gradually phased out.

The choice of modernising the Malaysian telecommunications system fell on the L M Ericsson Crossbar Telephone Systems under a contract signed for purchases 1967-72.

As stipulated in the agreement with the Malaysian Government, L M Ericsson established Telecommunications Manufacturers (M) Sdn. Berhad (TMK) in 1971 to begin local production of its equipment. The company now engages 400 employees, of whom 300 specialise in the manu-

facture of telephone exchange equipment in its factory in Shah Alam. The extensive training of production staff with local training schemes as well as special training of Malaysian staff in the Ericsson headquarters in Sweden enables the company here to produce very high quality equipment.

To meet the ever growing expansion of the Malaysian national telephone system, the production capacity at TMK has been increased from an initial 20,000 lines annually to 50,000 lines per year in the last two years.

Besides Malaysia, the L M Ericsson Telephone company has factories in Europe, the United States, Latin America, Asia and Australasia. Some of the largest companies of the Ericsson Group outside Sweden today are found in France, Brazil, Italy, Spain, Australia and Mexico. Today, the Ericsson name means telecommunications in over 90 countries. And it is one of the few organisations in the world with the capacity to plan, design, manufacture and install a complete telecommunications package practically anywhere.

The transition from a small two-man enterprise in 1876 to global operations is the result of imaginative research, high manufacturing standards and superior customer service. Important to Ericsson's growth has been the ability to analyse communication needs and to develop the most appropriate solutions to specific problems — in terms of quality, long life, compatibility with existing equipment and awareness of probable technical advances in the future.

The costs for research and development in a

new generation of telephone switching system (telephone exchange) today is about M\$500 million. It is beyond the means of an individual domestic supplier to undertake such a project. The degree of autonomy in each individual company in the Ericsson Group depends on factors such as annual turnover, the availability of skilled local engineers, machinery and components for production.

The new and significant term in telephony is Stored Programme Control (SPC) which implies a telephone exchange system in which optimum utilisation has been made of the latest in electronic component technology to design a large capacity special purpose computer for control of the connection of telephone calls. The SPC control provides facilities to the telephone administration to study the quality of service extended by the telephone network to the subscribers and to programme new orders about call routing, charging and the like to the telephone exchange from a national or regional operations centre.

The computerised SPC system is highly "intelligent" and the operation staff can communicate with the system from a teleprinter which, over radio links or cables, may be remotely placed in relation to the different telephone exchanges. SPC technique also reduces space requirements, and provides new subscriber services, lower overall operational costs, and higher speed operation in connection of calls.

Future telephone exchanges can be adapted to a new technique for transmission of human speech in a coded form over cables and carrier channels through

a new device called digital switching or time division. This technique increases the capacity of the cable network and it also improves the quality of speech transmission, especially over long lines, so that the subscribers talking to each other will experience a more comfortable audibility.

The digital switching will also make it possible to do away with all electron-mechanical components in a telephone exchange so that eventually not only the control of the exchange speech network but also design of the speech network itself can be implemented by the use of the static electronic components.

The L M Ericsson Telephone company has already expressed its willingness to make the modern SPC-systems available to Malaysia as soon as the Malaysian telephone administration decides to enter the new era of telephony.

The introduction of the SPC telephone systems means more than the opening up of a new production line and investments in equipment and technique for production and testing of computer-type products. Along with manufacturing and marketing of this type of systems follows a demand for engineering knowledge in all aspects of modern computer techniques such as system structure, design of hardware and software programmes, handling of programmes, security aspects in regard to the ease of access to the "brain" of the telephone systems. Thus, the introduction of SPC technique into the Malaysian telephone network would bring along with it the transfer of skills in all areas of engineering and production.

PEOPLE'S REPUBLIC OF CHINA

PEKING HAILS DEVELOPMENTS IN SATELLITE COMMUNICATIONS

Peking Domestic Service in Mandarin 1200 GMT 8 Nov 77 DW

[Recorded talk by (Li Hsih-lin), delegate of a certain scientific research institute who attended the national electronics industry conference on learning from Ta-ching: "Persist in Working Independently, Maintaining the Initiative in Our Own Hands, and Relying on Our Own Efforts to Catch Up and Surpass the Advanced World Levels in Science and Technology"]

[Text] Satellite communication as means of communications has developed internationally in the early 1960's. Digital satellite communications came into use in a number of countries towards the end of the 1960's and the beginning of the 1970's. In order to dominate space, the two superpowers, the Soviet Union and the United States, have developed many satellites.

To break the two superpowers' satellite monopoly and to catch up with and surpass the advanced world levels in science and technology, our great leader Chairman Mao approved in 1975 a research project on satellite communications. Our esteemed and beloved Premier Chou also attached great importance to research and developments in satellite communications and related projects. Chairman Mao's concern and the party's expectations of us greatly encouraged the scientists and technicians. They said: "Since Chairman Mao and the party Central Committee have shown great concern for satellite communications, we must advance quickly to catch up with and surpass the advanced world levels so as to win honor for Chairman Mao and for our socialist motherland.

However, proceeding from their objective of usurping party and state power, the vicious Gang of Four interfered with and sabotaged the development of satellite communications by trotting out such fallacies as "up goes the satellite, down plummets the red flag." The workers, cadres and scientific and technological personnel of our institute who bitterly hated the Gang of Four's perverse acts resolutely struggled against their interference and sabotage under the leadership of the local party committee. To free China from being backward in communications and to catch up with and surpass the advanced world levels, they worked hard day and night in scientific research.

Scientific research has been emancipated with the smashing of the Gang of Four. After smashing the Gang of Four with one blow, the party Central Committee headed by Chairman Hua removed the obstacle which hindered developments in science and technology, much to the satisfaction of the masses of scientific and technological personnel. Guided by Chairman Hua's strategic policy decision on grasping the key link in running the country well, they successfully completed a research project, a task assigned them by the party, after launching a few big campaigns. The construction of the satellite ground station is a great victory for Chairman Mao's principle of "Maintaining independence and keeping the initiative in our own hands and relying on our own efforts" and a great victory for our extensive communist cooperation launched in our superior socialist system. The design and construction of the ground station and the research and the manufacturing of the necessary equipment were carried out with the cooperation and support of fraternal units in 14 provinces and municipalities throughout the country. By their cooperation and support, they have made outstanding contributions to speeding up the research and construction of the satellite ground station.

Our experience in building the satellite ground station tells us that if we proceed from the actual conditions in our country, cherish lofty aspirations, maintain independence and keep the initiative in our own hands and rely on our own efforts and follow China's own road of developing science and technology, we can overcome all difficulties and can scale all heights in science. It is the sacred duty for us who are working on the science and technology front to achieve the four modernizations and advance scientific research in order to catch up with and surpass the advanced world levels. The party Central Committee's circular on convening a national conference on science has greatly inspired our comrades who are fighting on the front-line of scientific research. We will resolutely respond to the call of the party Central Committee, work hard to scale the heights of science in the world, march toward the modernization of science and technology and make contributions in order to achieve the four modernizations.

CSO: 5500

VIETNAM

RADIO, TV COMMISSION HOLDS CONFERENCE IN HO CHI MINH CITY

Ho Chi Minh City Domestic Service in Vietnamese 2345 GMT 8 Nov 77 OW

[Text] On 8 November in Ho Chi Minh City, the Vietnam Radio and Television Commission opened the first conference on broadcasting and wired radio activities in the southern provinces. Attending the conference were representatives of people's committees and propaganda and training departments of provincial party committees. Also present were cadres in charge of radio and television stations in the southern provinces.

Comrade Tran Lam, alternate member of the party Central Committee and chairman of the Vietnam Radio and Television Commission, reported on the situation and duties of the local radio broadcasting and wired radio networks. After pointing out the great achievements of the broadcasting and wired radio networks over the past 30 years, he talked about the duties and functions of the Radio and Television Commission and the present broadcasting and wired radio task.

The political task of the radio broadcasting and television network is essentially the same as the political task of the press organs aimed at contributing to the propaganda, education, motivation and organization of the masses and transforming the party's resolutions into the mass revolutionary action movement. Today, although most radio broadcasting stations and the local wired radio network have just been built, the radio broadcasting and wired radio task has enjoyed basic advantages. The radio broadcasting and wired radio networks have been entrusted by the party and state with a glorious political task and a worthy role in socialist construction. They have been provided with fairly good material and technical means and cadres and have acquired much experience serving as a basis for further progress.

The conference heard a draft report on the functions, duties and organization of the body managing the local radio broadcasting and wired radio network and the organs in the southern provinces responsible for assisting the Vietnam Radio and Television Commission in the radio broadcasting and wired radio activities.

The conference will work for 3 days.

CSO: 5500

ROMANIA

BRIEFS

VIETNAM RADIO-TV AGREEMENT--Bucharest, AGERPRES, 11 Oct--An understanding of collaboration in radio-television between the Romanian Radio-Television and the Radio and Television Committee of the Socialist Republic of Vietnam has been signed in Bucharest. The document provides for intensified relations of collaboration between the two radio and TV bodies, of the exchange of radio and TV programmes. [Text] [Bucharest AGERPRES in English 1135 GMT 10 Nov 77 LD]

CSO: 5500

MORE UNIFIED YUGOSLAV RADIO-TELEVISION SYSTEM DISCUSSED

Belgrade BORBA in Serbo-Croatian 20 Oct 77 p 8 AU

[TANJUG Report]

[Text] Novi Sad, 19 October--In all republics and provinces the local radio broadcasting network has become a very important information medium of the working people and citizens, and has made a great contribution to the further development of the system of information throughout the country in accordance with the constitutional principles and documents of the socio-political organizations.

This was stressed yesterday at a meeting of representatives of the republican and provincial communities and associations of radio broadcasting organizations in Novi Sad. The meeting devoted attention to expanding cooperation between local radio stations, to a more complete and more effective information activity coming from the lowest level, the source of life, and from work collectives and communes.

It was stressed that in further developing information media, it is necessary to achieve the situation where information coming from the republic and provincial centers and the information coming from cities and villages, communes, regions and work collectives are considered equally important. As was said, radio stations should broadcast programs on developments in both directions. The delegate system also points to this practice.

For this reason at this meeting, it was requested that a broader discussion of the position of local radio stations in the overall information system, particularly in the Yugoslav radio and television network, should begin. The goal is to create a unified radio broadcasting system throughout the country, both regarding the linkage of the so-called central radio stations in the republic and provincial centers with the local radio stations, as well as regarding the cooperation of work and technical equipment of broadcasting points in cities and communes.

It was concluded that the leaderships of the socialist alliance in the federation, republics and provinces, the Yugoslav radio and television community

and the associations and communities of the radio broadcasting organizations in the republics and provinces be informed on the proposals adopted at yesterday's meeting. It was proposed to hold a broader meeting in Zagreb before the end of the year at which the possibilities for expanding the cooperation among the local radio broadcasting organizations throughout the country and their more direct and synchronized inclusion in the Yugoslav radio and television network be more comprehensively discussed. Special attention should be paid to the self-managing and interests organization or the local radio broadcasting network in the spirit of the law on associated labor.

In a broader exchange of views the past experiences in developing the local radio network in the republics and provinces were very positively assessed.

CSO: 2800

YUGOSLAVIA

'TANJUG' MODERNIZES ITS TECHNICAL EQUIPMENT

Belgrade TANJUG in English 0910 GMT 14 Nov 77 LD

[Pool item]

[Text] Belgrade, November 14, (TANJUG)--By modernizing its technical basis the Yugoslav news agency TANJUG is now able to send information on Yugoslavia to farthest off parts of the world and to participate successfully in information exchanges among the nonaligned countries news agencies. This is stressed in the final report regarding the realization of the law on modernizing TANJUG's technical basis recently submitted to delegates at the assembly of Yugoslavia.

The modernization of TANJUG's technical basis was successfully completed in less than five years. The major part of the new technical equipment for TANJUG's broadcasting and receiving centers began operation in 1975, while the other smaller part of equipment began to operate shortly before the start of the second phase of the Conference on European Security and Cooperation.

The successful operation of the new equipment was the basis for founding the pool of the nonaligned countries news agencies and it enabled efficient reporting from Colombo, in the same way the new equipment enables effective reception of foreign programs.

The completion of the modernization of its technical basis before the deadline set down in the law also enables TANJUG to use its new equipment for increasing the placement of information of Yugoslavia and important international events abroad.

CSO: 5500

BRAZIL

TELECOMMUNICATIONS SECTOR FACING FINANCING PROBLEMS

Service Might Deteriorate

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 23 Oct 77 p 39

[Text] The federal government is not investing in telecommunications. For that reason, all funds applied to the sector are paid exclusively by the user of the services, either in the form of rising rates, surcharges (such as the National Telecommunications Fund -- FNT) or in the form of self-financing (compulsory stock subscription in order to be entitled to a telephone, for example).

The equipment-producing industry has encountered greater difficulties in the last 3 years. Orders for telephones have dropped from year to year since 1974. The affiliated companies of the Brazilian Telecommunications Corporation (Telebras) have had to resort to foreign loans to proceed with their plans and to maintain industrial production at minimal tolerable levels.

Thousands of technicians and specialists have left the sector. There is unemployment and underemployment in all the equipment-manufacturing industrial companies. Nevertheless, the government, which holds the telecommunications services monopoly, does not make budgetary appropriations for investment in the sector nor does it assign it any priority.

For that reason, in the specific case of telephone services, the user will have new burdens in the coming months. "It will come out of their hide," said a government technician. "The citizen who uses the telephone will continue to pay alone for the installation, operation and expansion of the system."

In closing the Sixth Telebrazil Panel in Natal early last week, the secretary general of the Ministry of Communications, Romulo Villar Furtado, announced the magic formulas for obtaining the minimum funds needed for Brazilian telecommunications:

-- Increasing telephone rates (in addition to the 15 percent already in effect) beginning in April 1978 in order to permit the nominal increase of the companies' operational revenue by 40 percent;

-- More costly interurban calls, especially between nearby cities (1,2 and 3 levels);

-- Increasing the percentage of the FNT surcharge on the cost of local services from 20 to 30 percent;

-- Introduction of the system of charging rates for local calls on a time-elapsd basis, "minute by minute," like a taxi meter, which will certainly raise telephone bills. Today there is no time limit on local calls: each call costs only 1 cruzeiro, whether it lasts 10 seconds or 2 hours. A new directive from the Ministry of Communications will permit charging a unit cost for each minute or fraction of time for local calls.

Self-financing is now more expensive, with reduction of the maximum term [for stock purchase] from 36 monthly installments, which was in effect until the first half of the year, to 24. In order to be entitled to a telephone, the citizen is obliged to subscribe to about 20,000 cruzeiros' worth of Telebras companies' stock. But each line costs the telephone companies about 40,000 cruzeiros, counting the investments made in the telephone central, the cables and external network, property and rights of way, and intercity and international systems. In view of this, each company must utilize loans and FNT funds to finance expansion in addition to reinvesting the possible surpluses of its operational revenue.

Beginning this year, instead of channeling some additional funds to the telecommunications sector, the federal government began to withdraw a substantial part of the FNT for investments in other sectors through the National Development Fund (the "big fund"). About 30 percent of the FNT was thus allocated for other purposes.

In order to reinforce investments for 1978, the Ministry of Communications has already obtained authorization for the issuance of 300 million cruzeiros' worth of debentures and to obtain a foreign loan of about \$150 million (2.3 billion cruzeiros).

The budget approved by the Secretariat of Planning reached the 42 billion cruzeiro ceiling, 27 billion cruzeiros of which are intended for the payment of contracts already in process and only 2.7 billion for new investments or industrial orders. The participation of the federal government will not exceed 1 percent of those investments.

Reduced Growth

The number of telephone terminals contracted each year has decreased since 1974. According to Telebras data, the development of new contracts has been as follows: 1974, 1,061,000; 1975, 505,000; 1976, 345,000; 1977, 245,000.

For an industry with the potential capacity to produce more than 1 million telephone terminals per year, the situation becomes critical in view of the constant tendency to fewer orders. Even so, many businessmen present at the

Natal meeting left optimistic about the prospects of Telebras contracting more than 350,000 terminals in the coming year.

Minister Quandt de Oliveira gave assurance that "1978 will be a much less difficult year than 1977 for Brazilian telecommunications," but he offered little of a concrete basis to support that perspective. Telecommunications did not receive any higher order of priority for public investment.

Sergio de Magalhaes, president of Standard Electric, believes that the biggest problem the sector faces stems from the extreme variations between supply and demand, between production and idle capacity, between plans and reality. "It would have been better for us to have grown at a uniform rate, say, 600,000 terminals per year, than to take leaps of about 1 million in 1973 and 1974 and then drop to almost zero this year."

Those cyclic variations disorganize the industrial sector and raise the price of the product. But Sergio de Magalhaes believes that the unit cost of 40,000 cruzeiros per telephone terminal installed cannot be considered very high if compared with international prices, today close to \$2,000. "I believe it is even reasonable if we take into account the volume of Brazilian production."

Difficult Solutions

Telebras believes that its productivity indices are rising and becoming encouraging. What is needed to cope with the situation is "long-term loans, with compatible need, and return of the FNT entirely to the sector."

The anticipated revenue of the FNT in 1978 should exceed 9 billion cruzeiros. But only 60 percent of that amount will be applied to telecommunications. The "big fund" will get the 40 percent that could be invested in telecommunications, guaranteeing resumption of the 600,000 terminal per year rate of growth of the telephone network.

Manoel Pio Correa, president of Siemens suggests the use of the French system of leasing equipment as a complementary way speeding up the development of the sector. As a matter of fact, France has expanded its telephone network by more than 1.6 million terminals per year using the leasing of centrals and other equipment. The only difference is that for the French Government telecommunications represents a number one priority in the country's development programs and gets substantial budget support in addition to other sources of funds (capital market, funds, internal private financing, etc.).

The greatest concern about the level of productivity of the telecommunications companies was shown by the president of the Sao Paulo Telecommunications Company (Telesp), economist Antonio Salles Leite, who asked at a certain point: "What is the risk, what is the uncertainty of a government company compared to a free enterprise company? In the case of telecommunications, it is monopolistic on the one hand and monopsonic on the other. If it does

not pay its bills properly its stock is usually not subject to a lien. What risk of failing do they run, for example? What risk do they confront in the face of technological progress?

To compensate for such distortions, according to Salles Leite, the state company should "carry out investments, research or other activities that by its nature private enterprise is not in a position to carry out."

The president of Telesp considers that in the present situation, although self-financing is necessary, "it is an inadequate process" for the expansion needs of the Brazilian telephone services because the shares that are conveyed, almost always with great delay, do not guarantee a profit or reasonable liquidity. For that reason, he suggests the adoption of debentures and even of Readjustable National Treasury Bonds (ORTN) to create new incentives for public participation in telecommunications investment.

Professor Octavio Gouvea de Bulhoes believes concern for the stockholders and regard for the return on those bonds is fundamental in the process of attracting funds for expansion, including the telecommunications sector. But the state company is not prepared, nor does it inspire public confidence because in general "its leaders do not act simply as administrators but as the government; that is, they do not take into account productivity, efficiency and profitability on a priority basis. In the state company, the recourse to subsidized rates and political standards of management is much easier and more frequent," observes Professor Bulhoes.

FNT, Absurd Example

Even assuming the absolute control of the country's telecommunications system, the government does not grant the support that the sector requires as an infrastructural element, as a basic economic and social development factor. Communications have been nationalized but they still do not receive the compatible treatment they deserve.

An example of the strange rules that prevail in government investment programs has been the National Telecommunications Fund. Created in 1967, the FNT was supposed to furnish funds for the establishment of the Brazilian Telecommunications Company's (Embratel) system and, supplementarily, for the support of other areas of the country's public telecommunications services.

The FNT is a fund but it does not have borrowers. It collects a surtax levied on any telecommunications services. But it does not give anything in exchange, as occurred with the capital funds of the Brazilian Petroleum Corporation (Petrobras) or the Brazilian Electric Power Corporation (Electrobras).

But that is only the juridical or legal aspect. Now the FNT is readjusted or modified by directive, like a simple rate or tax. Worse still, the FNT funds (more than 5 billion cruzeiros this year) are handled in complete

disregard of the priorities of the sector and of the regions that generate those funds.

Ericsson Company Optimistic

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 23 Oct 77 p 39

[Text] Among the large industries in the sector, Ericsson of Brazil is the only one that is expressing relative optimism about the future of telecommunications. The company has just doubled its capital, raising it from 588 million cruzeiros to 1,176,000,000 "through capitalization of the credits of its Swedish associate, Lm Ericsson," with a view to rectifying the economic-financial situation revealed in its last balancesheet. The origin of Ericsson's optimism is perhaps the recent signing of a contract with Telesp in the amount of about 1 billion cruzeiros to supply 86,150 terminals for the city of Sao Paulo. In a critical year such as 1977, that order can justify euphoria.

Being an industrial group concentrated exclusively in telecommunications, Ericsson depends on government decisions to a larger degree than other companies in the sector. In any case, the increase of capital with preferential right guaranteed to Brazilian stockholders is viewed by Ericsson as proof of confidence in the market and an effective means of saving foreign exchange since the credits of the Swedish home office (for imports already made) will not require commercial payment.

Ericsson of Brazil also denies that it has any intention or that there is any risk of "closing the capital" in Brazil. The period for stockholders to avail themselves of the preferential rights to participate in the increased capital runs from 31 October to 30 November.

8711

CSO: 5500

BRAZIL

TWO NEW COMPUTER FIRMS TO BE NATIONALLY CONTROLLED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 18 Oct 77 p 31

[Text] The president of the Brazilian Computer Corporation (COBRA), Carlos Augusto Rodrigues de Carvalho, said yesterday that within a few years when the national computer industry is consolidated and has developed its own technology, the sector may be able to handle a large multinational company. But for the time being, he stressed, it is better for the two new companies that will enter the market to be genuinely national because the presence of a large foreign company could result in a monopoly.

Carlos Augusto's statement, made yesterday at the 10th National Data Processing Congress inaugurated by Finance Minister Murilo Macedo, runs counter to the viewpoint of many directors of multinational companies present at the meeting. One of them, for example, declared that the conditions of competition opened up by the Electronic Processing Activities Coordination Commission (CAPRE) are completely at variance with the rules of the capitalist system. "I do not agree with the establishment of new computer factories by imposition," stressed that businessman. "It is the law of the marketplace that should decide what is the appropriate number of units.

"The authorities in the sector have now taken on a fight with 14 companies because of the 16 bids only two will be accepted. It is the capitalist system that selects the market, not the government."

Greeting congress participants, Secretary Murilo Macedo said that Brazil has already passed the phase of utilizing the computer as a mere status symbol and is decisively entering a phase of a more rational utilization of available equipment. "I do not hesitate to say that in that field also Brazil will continue to grow at significant rates, increasingly consolidating what is now an incipient industry," he declared.

8711
CSO: 5500

INTER-ARAB AFFAIRS

BRIEFS

SYRIAN OFFICIAL IN BAGHDAD--Baghdad, 12 November--Ahmad Qanbar, liaison director at the Syrian Ministry of Communications, arrived there today at the head of a delegation to discuss the implementation of the project for linking Iraq with Syria via a communications network of microwave and coaxial cable. Iraq last week signed a contract with a foreign company under which the company will install a coaxial cable from Baghdad to al-Ga'im town on the Iraqi-Syrian border. [Text] [Baghdad INA in Arabic 1325 GMT 12 Nov 77 JN]

CSO: 5500

JORDAN

BRIEFS

JORDAN RELAY STATION IN AQABA-- The Broadcasting Service of the Hashemite Kingdom of Jordan has installed a new relay station to boost its radio transmission in Aqaba and the surrounding area. Director General of the Broadcasting Service Nasuh al-Majali said that the relay station, which was installed at the instructions of His Majesty King Husayn, began operating with outstanding efficiency several weeks ago. He explained that for the first time radio transmissions will reach Aqaba at the same strength of transmissions received in other areas of the country. He said the relay station was installed as a gesture of auspiciousness on the birthday of His Majesty King Husayn and the celebrations that will take place in Aqaba on this occasion. Al-Majali said other arrangements are being taken to provide the Aqaba relay station with a frequency modulation transmitter. He expressed hope that this will be done in the next 6 months due to Aqaba's importance as a seaport and tourist town. [Text] [Amman Domestic Service in Arabic 1600 GMT 12 Nov 77 JN]

CSO: 5500

LIBYA

BRIEFS

UNDERSEA CABLE--The president of the Higher People's Committee for the General Organization for Post and Telecommunications signed yesterday morning in Tripoli a contract with the Japanese company Nippon Electric for the installation of an undersea cable running between Tripoli and Banghazi. The value of the contract is 11,744,787,812 Libyan dinars. The above-mentioned company, according to the contract, must complete this project within 19 months from the date of the contract. This cable has a capacity of 900 telephone and telegraph channels as well as a channel for audio-visual broadcasting. The importance of this project lies in increasing the telephone and telegraph communications between the two cities so that it will function as an alternative to the centimeter wave systems along the Jamahiriyah's coast which were completed more than 3 years ago. This contract also requires the company to train nationals for a period varying between 9 and 15 months in all operations connected with the maintenance and use of this system. [Text] [Tripoli AL-FAJR AL-JADID in Arabic 6 Nov 77 p 1]

CSO: 5500/4709

INTER-AFRICAN AFFAIRS

OAU TO ESTABLISH PAN AFRICAN NEWS AGENCY

Amin Speech, Other Proceedings

Peking NCNA in English 1613 GMT 12 Nov 77 OW

[Text] Kampala, November 11, 1977 (HSINHUA)---The first conference of information ministers of the Organization of African Unity (OAU) ended here today. It decided to establish a Pan-African news agency.

Attending the five-day conference were Assistant Secretary General of OAU Peter Onu, information ministers and delegations from more than 30 OAU member states.

Addressing the opening ceremony, Ugandan President Idi Amin condemned the imperialist and Zionist news media for always finding faults with independent African countries and causing confusion and conflicts among them so as to get their own interests. He stressed that "the only way to shed off these remaining shackles of colonialism is to establish our own news agency."

President Amin reaffirmed Uganda's stand to support the liberation movements against the racist regimes in southern Africa and the struggle of the Arab and Palestinian peoples against Israeli Zionism.

After earnest discussion, the conference adopted a "Kampala Declaration", which says, "Information is a necessary instrument for education, mobilization and orientation of the African masses." It points out. "It is necessary and indispensable to draw up an African information policy based on cooperation and concertation for strengthening African personality and promoting rapprochement, unity, economic, social and cultural progress of our peoples.

The conference elected an inter-governmental council responsible for studying all questions relevant to the proposed Pan-African news agency. It was

also decided to set up a permanent secretariat responsible for coordinating and fostering cooperation among various news agencies as well as following up the setting up of a regional structure of the Pan-African news agency.

The conference declared support to the efforts being made by the nonaligned countries for establishing a new international information order in consonance with the interests of the Third World countries.

It accepted the proposal of the League of Arab States for holding a joint meeting of information ministers of the OAU and the League of Arab states.

The conference fixed November 7 as the "African Information day."

Uganda Statement

Kampala Domestic Service in English 1400 GMT 11 Nov 77 LD/EA

[Summary] The OAU conference of ministers of information which has been sitting in Kampala has ended with Uganda's delegation repeating President Amin's offer that Uganda be a permanent home for the Pan-African news agency. Uganda's minister of information and broadcasting said that Uganda will continue to do everything possible to insure that the setting up of the Pan-African news agency becomes a reality and continues to serve the best interests of our people of Africa as a whole. Uganda will honor her obligations and give the necessary facilities and other amenities which may be required for the headquarters of the Pan-African news agency to become operational.

CSO: 5500

INTER-AFRICAN AFFAIRS

UGANDA'S COMMENTS ON SATELLITE STATION TO SUDAN MINISTER

Kampala Domestic Service in English 1400 GMT 10 Nov 77 LD/EA

[Summary] President Amin met the Sudanese minister for culture and information, Mr Bona Malwal, who thanked the president for having established in Arua the earth satellite station, which will improve communications both in Uganda and southern Sudan.

The minister said it would be a good idea for the two countries to exchange television and radio programs. President Amin praised the good relations between Uganda and Sudan. He said he had directed the Cabinet to insure that importers try to get supplies from Sudan before looking elsewhere.

Later, the president met the director of the Harris Satellite Corporation, who was accompanied by (his) general manager. President Amin thanked them for the excellent work they had done. The corporation would be playing a big part in Uganda's communications, he said.

CSO: 5500

CHAD

PLANETARIUM TO BE OPENED IN SOVIET TRACKING STATION

Ndjamena INFO TCHAD in French 13 Oct 77 pp 2-4

[Text] A Soviet artificial satellite tracking station has been operating in Ndjamena since 1971. It is installed in accordance with a 5-year agreement that is automatically extended if one side does not cancel it 3 months prior to its expiration date. Tomorrow, a planetarium will be opened inside the tracking station. Having these installations on Chadian soil is one of the ways the country can participate in the astronomical research program.

The tracking station operates under the international COSPAR [Committee on Space Research] program. The scientific institutes of the Soviet Union and other countries transmit to the station data on the movement of satellites, and every night the Ndjamena technicians open a sheet metal roof to probe the sky with their telescope. The results of their observations are used for three astronomical programs:

- Dynamics program (research on the earth's gravitation)
- Atmosphere program (research on the upper layers of the atmosphere)
- Calculation of the great chord.

The great chord is the line between the two poles of the Earth. We believe we know the dimensions of the Earth, but we are recalculating the length of that line (to within a tenth of a centimeter). More than 20 tracking stations are collecting data to that end, filming satellites from various positions. Ndjamena is situated precisely on that line. Therefore it is participating in the synchronized tracking. The stations work in pairs. The Ndjamena tracking station is sometimes paired with the Malabo station, sometimes with the Mogadiscio station, and even with those of Bamako, Santiago de Cuba, Quito (Ecuador), La Paz (Bolivia), the Kerguelan Islands, etc.

The Sky in Miniature in Motion

Eventually, if Chad has a space program, she can train her specialists at this station. But the station will be even more suitable for training future specialists because of the planetarium that will be opened tomorrow.

This new installation is distinguished by a shining dome that covers the planetarium house. And everything is seen on this dome, from the inside. The house holds the planetarium equipment and a control panel. The apparatus, made by an East German firm, has 31 spherical units representing various regions of the sky. Each division of the sky is shown on a very, very thin metallic transparency. When the house is closed and the lights are out, two green letters symbolizing the North Pole and the South Pole stand out. A bright light then projects the 31 transparencies on the inner surface of the dome of the planetarium, and the 5,000 stars visible to the naked eye begin to twinkle against the black background created by the darkness. The sky can be seen as it appears above the North Pole, at Ndjamena, at the South Pole, or at any other point on Earth.

Bright lines symbolize the equator, the position of the sun, a satellite orbit, etc. The planetarium apparatus can simulate a 24-hour Earth revolution in 3-1/2 minutes. In a few minutes it can even reproduce an Earth revolution about the axis of our galaxy, which actually takes 26,000 years. Finally, images of five other planets: Mercury, Mars, Saturn, Jupiter, and Venus can also be seen in this planetarium.

The training programs for Soviet cosmonauts always include an observation period in the planetarium in order to familiarize the voyagers with the sky. The Ndjamena planetarium is the only one in Equatorial Africa. After its opening tomorrow, Soviet specialists will schedule lectures to permit the Chadians to "become acquainted with the sky."

7428

CSO: 5500

GHANA

OFFICIAL SPEAKS AT KAMPALA MEETING IN SUPPORT OF PANA

Accra GNA in English 1600 GMT 10 Nov 77 LD

[Text] Ampala, 10 Nov, GNA--The United Nations Educational Scientific and Cultural Organisation (UNESCO) and the Economic Commission for Africa (ECA) have pledged support for the establishment of Pan-African News Agency (PANA).

The two organisations made their pledges at the current Conference of Ministers of Information of the Organisation of African Unity (OAU) here.

Mr Alex Quarmyne, UNESCO's observer delegate told the conference that his organisation attached importance to the conference because of the need to work towards the achievement of a new world information order.

He assured the ministers that his organisation would continue to monitor activities on the establishment of PANA and within the limits of the organisation work closely with various organisations and bodies working towards PANA's birth.

In his contribution to the conference, Ghana's commissioner for information, Colonel Parker Yarney, regretted that 14 years after the idea of PANA was conceived, "We are yet to realise the take-off of such an obviously invaluable project."

He said: "Our ambivalence would have been understandable if realities of our circumstances had changed, but these have not changed and they demand that we establish now such an agency."

Col Yarney declared that as a first step there should be an increase in cooperation among the present national news agencies in Africa by means of exchange of news stories and personnel.

"It is our conviction that the bedrock upon which a news pool and then a Pan-African News Agency could be built would undoubtedly be intra-African communication linkages," he added.

FOUNDATION STONE LAID FOR EARTH SATELLITE STATION

Communication To Improve

Kampala VOICE OF UGANDA in English 8 Nov 77 pp 4, 6

[Editorial in "VOICE Periscope" column: "Mass Media Giant Step Forward"]

[Text]

THE foundation stone of the Earth Satellite Station at Ombaci, Arua, has been laid by Life President Amin. To witness the highlight of this occasion were, significantly, the Ministers of Information from OAU member states, who have come to discuss the very subject for which Uganda decided to erect this advanced communications unit: Independent dissemination and receiving of news and reports by the African states.

In the wake of the recent breakage of the East African Community, the erection of this station is very opportune and desirable. Not only that. At this stage of development it is only appropriate that we directly communicate with the outside world. This is now possible without having to pass through Longonot, Kenya, as before.

This station is monumental and a big milestone in the mass media technological development of our country. In itself, it is a quantum jump in the telecommunications system in Uganda.

At this point in time, this project is one of the many pieces of evidence we can quote to the outside world to adduce to the progress of the military Government and dynamic advancement in all fields.

This station gives us yet another communication avenue in addition to our other routes by road, rail and air. To meet our daily need to communicate urgently and fast enough, these alone have not been sufficient.

When this station is completed early next year as it is anticipated, it will greatly ease our communication problems both domestically and internationally, though it is partly operational at the moment.

At the international level, we shall be able to receive easily our telex and telephone calls, and also be able to get clearer pictures on our television screens.

More importantly also, Ugandan businessmen should soon be able to directly talk trade and business issues with any foreign country and business bodies. This will give us a fair chance to be represented and our trade links will thus be boosted greatly.

Because of our dynamic President's wish to provide the whole country with easy communication means, other satellite substations will be erected in Kapchorwa, Mbarara, Fort Portal and Kabale to cater for the entire country.

This, in its entirety, means that the purpose of establishing such stations in the country is to give quick and co-ordinated communication services, thus helping the country to advance in all fields.

It is our wish and hope, therefore, that all the citizens of the country will honour this great achievement and utilise these services, especially for developmental and educational purposes.

New Name

Kampala VOICE OF UGANDA in English 9 Nov 77 p 1

[Text]

PRESIDENT Amin has disclosed that the new radio station in Arua will be known as Gilgil West Nile Broadcasting Corporation.

CSO: 4420

USSR

BRIEFS

TV STATIONS IN EAST--Blagoveshchensk--Four television relay stations--two of which are high-powered--have been commissioned in Amurskaya Oblast in the days preceding the festival. The inhabitants of the coalminers' city of Raychikhinsk, the village of Chernyayevo, the lumberjacks' settlement of Taldan and thousands of people from other populated centers in Amurskaya Oblast will for the first time be able to watch the parade and festive demonstration on the capital's Red Square live. About 90 percent of the population of the vast oblast, including the construction workers on the central section of the Baykal-Amur Railroad, can now watch central television programs. The zone where television broadcasts can be received will continue to expand in the next few years as the steel tracks advance north and east of Tynda. It is planned to commission small-capacity television relay stations in the new settlements. [Text] [Moscow IZVESTIYA in Russian 7 Nov 77 Morning Edition p 6 LD]

CSO: 5500

TELEPHONE SYSTEMS COMPUTER PRODUCTION REPORTED

Paris ELECTRONIQUE ACTUALITES in French 14 Oct 77 pp 1, 13

[Article by D. Levy: "CIT-ALCATEL Anticipates Producing 30 to 100 CS-40 Computers a Year, Starting in 1979, for Switching"]

[Text] Fayard, assistant general manager of CIT-ALCATEL [International Telephone Company-Alsatian Company for Atomic, Telecommunications and Electronic Construction], took stock, on 6 October, of the technological evolution undergone by the company's switching activity. In addition to the development and evolution of the E-10 and E-12 telephone systems, CIT-ALCATEL committed itself to the production of telecommunications computers, after the agreement signed on 16 May of this year with CII-HB [International Data Processing Company-Honeywell Bull] on the CO-40. CIT-ALCATEL decided to mass-produce this computer starting in 1978, when five units are scheduled, and it envisions an annual production of 30 to 100 CO-40 during the next few years.

The CS-40 computer, which is designed especially to equip high capacity electronic exchanges (E-12 type), was developed originally by the CII for CIT-ALCATEL, which was itself designing the E-12 system under contract with the CNET [National Center for Telecommunications Studies]. Of the 400 to 500 million francs that the development of E-12 will cost altogether, over half the credits have already been spent, including 70 to 80 million francs for the CS-40 computer.

Once the CS-40 reached the industrialization stage, it was, therefore, taken up by CIT-ALCATEL, after its agreement with CII-HB, in addition to the teams that developed the machine and all the facilities enabling CIT-ALCATEL to master the system. This agreement enables the company also to have the support of CII-HB during the next few years, in order to make it possible for CIT-ALCATEL to develop its telecommunications computers in accordance with the most advanced techniques of data-processing.

Development Plan

The first five CS-40 units have already been manufactured at CII and are equipping, at present, the CIT-ALCATEL test facilities and the prototype plant for the E-12 system.

CIT-ALCATEL has now decided to start mass production of CS-40 in its Velizy plant, starting next year. Five units are scheduled in 1978, two of which are for the first E-12 exchange ordered by PTT [Postal and Telecommunications Administration] and which will be put in operation at Massy, in October 1979, and the other three for the C-PUCE (electronization of Crossbar exchanges) mockups -- see ELECTRONIQUE ACTUALITES for 11 May 1977). In 1979, 15 computers will come off the production line and production will progressively reach rates of 30 to 100 machines a year, depending on the development of the various programs using this computer (E-12 and C-PUCE).

According to Fayard, "this bracket of 30 to 100 a year is reasonable for manufacturing the CS-40 under competitive conditions." Depending on the configuration and rate of manufacture of the computer, its cost will range from 500,000 francs, for example, for a C-PUCE version, to 1.5 million francs. In the C-12 configuration, the estimate is from 1 to 1.5 million francs.

CIT-ALCATEL has also drawn up a CS-40 development plan, entailing the use of new technologies and a high degree of specialization in telecommunications application. This will lead to a reduction in the size and price of the computer.

In an initial stage, scheduled for the end of 1978, the 1-K housings (INTEL [International Telecommunications]) will be replaced with 4-K housings (INTEL or Texas), in the central memory, the mass memory drum will be replaced with fixed-head disks and small-sized magnetic tape unreeling devices will be introduced. These modifications will make it possible to decrease from 9 cabinets at present (5 CS-40 cabinets and 4 magnetic tape unreeling devices) to 4 cabinets (for a specific reference configuration).

In a second stage, scheduled for the end of 1979, a new input-outlet system (by replacing the present exchange unit and associated relay units) more specialized in telephony. The computer display will, then, no longer consist of more than 3 CS-40 cabinets).

Let us note that the SEMS [expansion unknown] plant in Toulouse will be associated in producing the CS-40 by supplying the "coppers" to CIT-ALCATEL (especially multilayered circuits, going up to 11 layers).

One Million E-10 Lines on Order

When he brought up the strategy of CIT-ALCATEL with regard to switching, Fayard stressed three guidelines: the choice of temporal technology and technological independence will make it possible to tackle the whole international market freely, and the company's very decentralized industrial structure.

On the first point, Fayard pointed out, on the one hand, that all the large builders in the world submitted temporal systems, even in the planning stage, in 1977, and, on the other hand, that a very large number of countries are contemplating equipping themselves with a temporal system. With a million E-10 lines in operation or on order at the end of this year and the progressive

experience with networks in the 11 countries (plus South Africa) that have adopted this system, CIT-ALCATEL is in an excellent international position in this field. As of 30 September, 190,000 E-10 lines were in operation, including the Paris region, and 525 lines under order. Abroad, 30,000 E-10 lines were in operation and 120,000 lines under order. For 1977, CIT-ALCATEL -- which will put 130,000 E-10 lines in operation and 890,000 CP-400 lines, in France -- has orders on its books for 315,000 E-10 lines for PTT (including the AOIP [Precision Instrument Workers Association] share) and 64,500 lines for export. Next year, it anticipates a 50-percent increase in PTT orders for E-10 and a 16-percent decrease in Crossbar orders.

Fayard also stressed the importance of having the company's own technology, in order to tackle the international market. "The administrations of the various countries address themselves preferably to the holder of a system rather than to its licensees. We experienced that with Crossbar. With the support of the administration, we have been developing, for the last 10 years now, a complete range of temporal switching systems based on the E-10 and E-12 systems, whose design is entirely national," he stated.

In addition to the E-10 system in operation at present (1,500-erlang [traffic unit] capacity), CIT-ALCATEL is developing a higher capacity version (3,000 erlangs) capable of providing connections for 30,000 subscribers. The first two systems in this configuration (128 US) will be installed in Mexico, in March 1979, and at Brest in that same year (the order should be announced shortly).

Let us note that this new system goes along with larger contracts for telephone exchanges in France (in competition with AXE) and export contracts (72 percent of the foreign contracts pertain to exchanges for 8,000 to 25,000 subscribers, compared with 26 percent for exchanges with less than 8,000 subscribers and 2 percent for exchanges with over 25,000 subscribers, according to calls for bids put out in the last 3 years and involving a sampling of over 1 million lines). Thus, it can be understood why an American study submitted to the Carter Administration singled out CIT-ALCATEL in particular as the principal threat, on a worldwide basis, to American constructors.

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FRANCE

BRIEFS

SWITCHBOARDS INSTALLED FOR NAVY--TIT [expansion unknown] and Cap Sogeti/Logiciel [software] announce the placing in operation of TIT-7840 telegraph message switchboards connected to the French Navy telegraph network. This equipment, which was the subject of an approximately 3.5-million-franc contract and which is intended for handling a large number of subscribers, is extremely compact and provides considerable service availability. Thus, a TIT-7840 unit in duplex configuration with tripping and automatic reset, equipped with 2 X 256 K eight-bit bytes memory and 256 telegraph lines, is contained entirely in a single 36-U (1.60 meter) cabinet, including subscriber telegraph connection equipment, and requiring no special climate precautions or power supply (auxiliary battery incorporated). The TIT-7840 system handles alternate or duplex subscribers at speeds of 50 to 200 bauds and 1,200-baud connecting lines. The handling and transmission capacity is 85,000 700-character messages a day. The operating software is designed around a multitask real time control device for telecommunications. This offers great modularity for implementing new procedures or new services. The TIT-7840 switchboard does not require the constant presence of operating personnel, owing to its self-supervision and automatic reconfiguration. [Text] [Paris ELECTRONIQUE ACTUALITES in French 21 Oct 77 p 10] 10042

FRANCO-VENEZUELAN COOPERATION--A cooperation agreement for the purpose of developing economic and industrial relations between France and Venezuela was signed in Caracas by Andre Rossi, minister of foreign trade, and Jorge Gomez, minister of foreign affairs of Venezuela. Under the terms of this agreement, consisting of eight articles including one concerning the telecommunications sector, coordination of exchange and general evaluation of cooperation will be ensured by means of joint meetings. [Text] [Paris ELECTRONIQUE ACTUALITES in French 21 Oct 77 p 2] 10042

AID FOR YEMEN--Negotiations between the Ministry of Economy and Finance and the Yemen Arab Republic concerning privileged credits for the purpose of financing the achievement of a mixed telephone and television microwave network in the Yemen Arab Republic ended in the signing of a protocol by which France grants the Yemeni Government financial facilities amounting to a total of 120 million francs, of which 35 million francs are a Treasury loan. This information is to be put together with the order amounting to 280 million francs obtained from Yemen by CIT-ALCATEL at the head of a consortium of French companies and aiming at providing that country with a complete telecommunications network (telephone and television). [Text] [Paris ELECTRONIQUE ACTUALITES in French 21 Oct 77 p 2] 10042

GREECE

BRIEFS

TELECOMMUNICATION EQUIPMENT FACTORY--The intention to establish a factory for the production of electronic telecommunication equipment will probably be announced later today jointly by the vice minister of communications, Mr A. Tsaldaris, the governor of the ETVA, Mr Spendzas and a representative of O.T.E. The factory will produce automatic telephone exchanges and will be ready in 3 years. It is expected to cost Drs 600 million. The value of annual production will be of the order of Drs 1.5 million. International invitation to tenders will follow, for selection of the technology to be used. [Text] [Athens HELLENEWS-EXPRESS in English 13 Oct 77 p 10]

TELECOMMUNICATION EQUIPMENT COMPANY FORMED--Articles of association were signed on 13 October for the new state-owned agency which, in the form of a joint stock company, is to found the electronic telecommunications industry in Greece. The Hellenic Industrial Development Bank has subscribed to 55 percent of the Drs 400 million share capital and O.T.E. (the Telecommunications Organization) has taken on the remaining 45 percent, hence it is an entirely state-owned concern. The former will appoint the managing director and three more directors to the company's board while O.T.E. will appoint the general technical manager and three directors to the board. The company's management will hasten selection of the technology to be used, in order that final proposals may be drafted for implementing the project. [Text] [Athens HELLENEWS-EXPRESS in English 20 Oct 77 p 4]

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PORTUGAL

BRIEFS

TELECOMMUNICATIONS IMPROVEMENTS--The Portuguese Post, Telephone, and Telegraph Service (CTT-TLP) has decided to modernize its telephone network by installing electronic exchanges and slowly replacing the electromechanical exchanges. Furthermore, the CTT's investment plan for the period 1978-1981 reaches 15 million contos. The telecommunications part of the plan is geared toward the installment of 155,000 new telephone lines, 5,400 teleprinter circuits, the complete automation of the national network and the improvement of the intercity service. The part of the investment allocated to the mail service will be used in motorization, mechanization and the automation of mail handling. [Text] [Paris ELECTRONIQUE ACTUALITES in French 11 Nov 77 p 8]

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TURKEY

BRIEFS

TURKISH-GERMAN COMMUNICATIONS--Berlin (HURRIYET) Semi-automatic telephone conversations between Federal Germany and Turkey have recently begun, and tie-ins have been established in 14 provinces of Turkey. Turkish cities thus far connected to this semi-automatic telephone system are Istanbul, Ankara, Izmir, Adana, Adapazari, Aydin, Bursa, Canakkale, Corlu, Eskisehir, Izmit, Kayseri, Konya, and Luleburgaz. Those calling Turkey from West Germany dial the number 0010 and give the German Post Office the desired Turkish telephone number. Postal officials ring the number and the connection is made without delay. [Excerpts] [Istanbul HURRIYET in Turkish 9 Nov 77 p 3]

KASTAMONU TV RECEPTION--Television broadcasts can be viewed from band 3 channel 6 in Kastamonu and its vicinity as of this evening. According to information obtained by the TRT technical officials, viewers in Kastamonu and its vicinity should direct their antennas toward Ilgaz mountain. [Text] [Ankara Domestic Service in Turkish 0530 GMT 4 Nov 77 TA]

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END